

AMENDED CLAIMS

[received by the International Bureau on 30 November 2004 (30.11.04);
original claims 23-24, 43-44 amended; new claims 70-71 added; remaining claims unchanged]

22. The electrolytic processing apparatus according to
claim 21, wherein the drive mechanism is designed to cause relative
movement between the electrode section and the workpiece at a
relative speed of not lower than 0.2 m/sec.

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23. (Amended) An electrolytic processing apparatus
comprising:

an electrode section including an electrode member
comprised of an electrode;

10 a liquid supply system for supplying a liquid between the
electrode and a workpiece;

a drive mechanism for causing relative movement between
the electrode section and the workpiece; and

15 a power source to be connected to the electrode of the
electrode member of the electrode section;

wherein an on/off or positive/negative control of the power
source is performed in synchronization with the relative movement
between the electrode section and the workpiece.

20 24. (Amended) The electrolytic processing apparatus
according to claim 70, wherein the on/off control is performed
such that the power source is on when the relative speed between
the electrode of the electrode section and the workpiece in the
width direction of the electrode section is not lower than 0.2
25 m/sec.

25. An electrolytic processing method comprising:
processing a workpiece in the presence of a high-pressure
liquid by applying a voltage to an electrode section.

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. 26. The electrolytic processing method according to claim
25, wherein the high-pressure liquid is supplied between the
electrode section and the workpiece.

39. An electrolytic processing method comprising:
processing a workpiece in the presence of a liquid by
applying a voltage to an electrode and moving an ion exchanger,
covering a surface of the electrode, and the workpiece held by
5 a holder relative to each other, while keeping the ion exchanger
and the workpiece in contact with each other, such that the contact
time of the ion exchanger with a point in a processing surface
of the workpiece is not more than 10 msec.

10 40. The electrolytic processing method according to claim
39, wherein the ion exchanger and the workpiece held by the holder
contact each other with a contact width of 0.2 to 1.5 mm.

15 41. The electrolytic processing method according to claim
39, wherein the ion exchanger and the workpiece held by the holder
are moved relative to each other at a relative speed of not less
than 0.2 m/sec while keeping them in linear contact with each
other.

20 42. The electrolytic processing method according to claim
40, wherein the ion exchanger and the workpiece held by the holder
are moved relative to each other at a relative speed of not less
than 0.2 m/sec while keeping them in linear contact with each
other.

25 43. (Amended) An electrolytic processing method
comprising:
processing a workpiece in the presence of a liquid by
applying a voltage to a plurality of electrodes and moving the
30 electrodes and the workpiece relative to each other;
wherein the voltage is on/off or positive/negative
controlled in synchronization with the relative movement.

44. (Amended) The electrolytic processing method according to claim 71, wherein the liquid is pure water, ultrapure water, or a liquid having an electric conductivity of not more than 500 μ s/cm.

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45. An electrolytic processing method comprising:
bringing a workpiece and a processing electrode close to or into contact with each other; and

processing the workpiece in the presence of a liquid by
10 applying a voltage between the workpiece and the processing electrode while moving the workpiece and the processing electrode relative to each other;

wherein the relative speed between the workpiece and the processing electrode is made fast in an initial processing stage
15 and slow in a later processing stage.

46. The electrolytic processing method according to claim 45, wherein the relative speed between the workpiece and the processing electrode is made slow when a thickness of a film,
20 which is formed in a processing surface of the workpiece and is being processed, has reached a value of not more than 600 nm.

47. The electrolytic processing method according to claim
25 45, wherein the relative speed between the workpiece and the processing electrode is changed stepwise.

48. The electrolytic processing method according to claim 45, wherein the relative speed between the workpiece and the
30 processing electrode is changed continuously.

49. The electrolytic processing method according to claim 45, wherein a contact member is provided between the workpiece and the processing electrode.

68. The electrolytic processing method according to claim 67, wherein the contact member comprises an ion exchanger or a polishing pad.

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69. An electrolytic processing method comprising:
bringing a workpiece and a processing electrode close to
or into contact with each other; and
processing the workpiece in the presence of a liquid by
10 applying a voltage between the workpiece and the processing
electrode while causing relative movement between the workpiece
and the processing electrode by allowing the workpiece and/or
the processing electrode to make a cyclic movement;
wherein the cycle of the cyclic movement of the workpiece
15 and/or the processing electrode is changed during processing.

70. (New) The electrolytic processing method according to
claim 23, further comprising:

20 an ion exchanger covering a surface of the electrode; and
a holder for holding a workpiece and bringing the workpiece
into contact with the ion exchanger of the electrode member.

71. (New) The electrolytic processing method according to
claim 43, further comprising:

25 an ion exchanger covering the surfaces of the plurality
of electrodes; and
a holder for holding the workpiece and bringing the
workpiece into contact with the ion exchanger of the electrodes.